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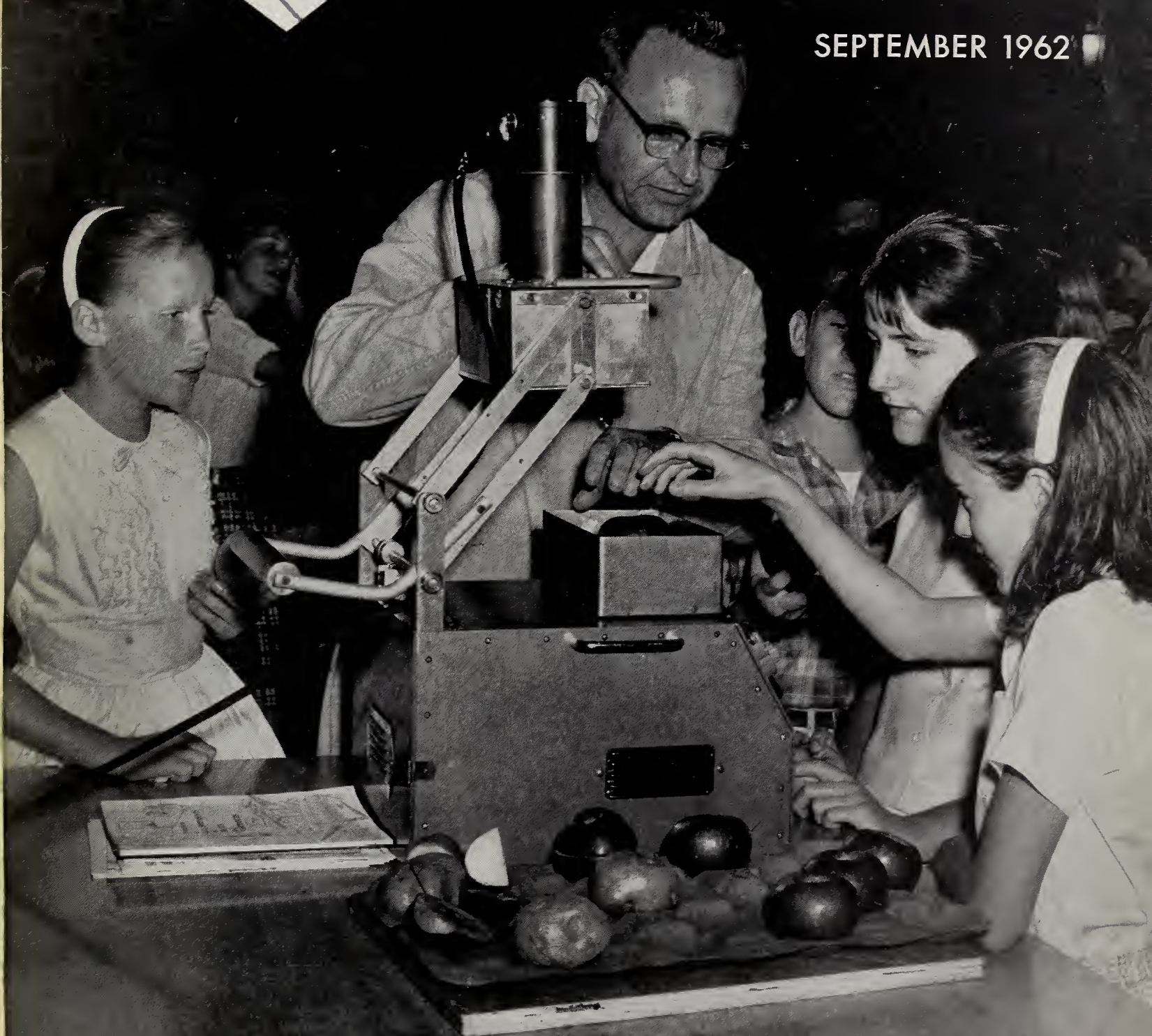


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UNITED STATES DEPARTMENT OF AGRICULTURE



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September 1962

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## Cover page

Eager-eyed, back-to-school students crowd around an experimental machine being demonstrated in Washington by Karl Norris, of USDA's Market Quality Research Division.

Called a difference meter, this ingenious machine was recently developed by AMS marketing researchers to detect internal defects in a wide variety of fruits and vegetables. In this particular instance it is finding a hollow heart in potatoes and water core in apples.

One feature of this new machine is that it does not need to cut open any of its fruit and vegetable samples, so none is destroyed in its search for defects.

This difference meter is not used commercially now, since it is still in experimental stages, looking toward further improvement. However, when it reaches perfection, researchers hope that it can be used successfully along conveyor belts—under USDA grading and inspection procedures—to locate and eliminate defective fruits and vegetables. This undertaking is but another facet in USDA's constant search for ways to bring better quality produce to consumers and aid the marketing system for the Nation's farmers.

*Editor, MILTON HOFFMAN*

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# Food Stamp Program Offered to New Areas

**P**RESIDENT KENNEDY announced recently an additional 25 areas in 18 States to which the Pilot Food Stamp Program is being offered.

Governors of the States were notified of the designated areas by Secretary of Agriculture Orville L. Freeman and discussions are underway with appropriate State and local officials to arrange for acceptance of necessary program responsibilities.

If accepted, it would reach a total of 34 areas in 22 States, replacing in those areas the distribution of USDA-donated commodities to families.

Because of the many administrative and educational activities that must be carried out in setting up a food stamp program, Secretary Freeman has established the following target dates for the first sale of coupons:

Oct. 1: Independence County, Arkansas; Nash County, North Carolina; Multnomah County, Oregon; Luzerne County, Pennsylvania; Dickenson, Lee, and Wise Counties, Virginia; Logan, Mingo, and Wayne Counties, West Virginia. (The program will also be extended to the balance of St. Louis and Itasca Counties, Minnesota.)

Nov. 1: Jefferson County, Alabama; Mendocino County, California; City of St. Louis, Missouri; Choctaw County, Oklahoma; Grays Harbor and Pacific Counties, Washington; and Douglas County, Wisconsin.

Dec. 1: Vanderburgh County, Indiana; Knott County, Kentucky; Evangeline Parish, Louisiana; Lucas County, Ohio; and Grundy, Hamilton, Marion, and Sequatchie Counties, Tennessee.

The pilot program in Detroit, Michigan; Franklin County, Illinois; Floyd County, Kentucky; Silver Bow County, Montana; San Miguel County, New Mexico; Fayette County, Pennsylvania; and McDowell County, West Virginia, also will continue to operate during the coming year.

Secretary Freeman said that very encouraging results from the year-long experiment in the original eight pilot food stamp areas prompted many more requests for the program than could possibly be filled even when unemployment and other economic factors indicated a need for the program. Depending upon the rate of program expenditures after these areas have been operating for some time, extension to additional areas may be possible later this fiscal year.

The new localities declared eligible were selected to enable the U.S. Department of Agriculture to evaluate the Food Stamp Program under a wider range of operating conditions than was possible during the initial year.

"We want to obtain a broader geographic distribution of the pilot areas—in both urban and rural settings and in various sized communities," the Secretary said, "and to take full advantage of the Agriculture Department's existing staff of experienced food distribution personnel located in various sections of the country outside Washington. Also, both the States and the Department need more experience in carrying out their respective responsibilities for the program when more than one county or political subdivision of a State is involved."

Within these essential conditions for a broader test of the program, the Secretary said that the localities designated were chosen from among those eligible for area redevelopment assistance or which have been experiencing above-average unemployment for some time.

The Secretary emphasized the importance of the roles of State and local governmental units in the operation of a food stamp program. State public assistance agencies are responsible for the certification of families who apply for participation. These agencies or the local governmental agency assume responsibility for the issuance and

sale of food coupons to participating families. USDA is responsible for directing those program operations carried out by food retailers, wholesalers, and banks.

Under the Pilot Food Stamp Program, eligible families pay an amount for food coupons that they would normally be expected to spend for foods included in the program. In return they receive coupons of greater value, to enable them to buy additional foods. Both the purchase requirement and the value of bonus coupons are based on family size and income. The coupons are used to buy any food—except a few imported items—out of regular commercial supplies at authorized retail outlets. Coupons cannot be used to purchase non-food items, alcoholic beverages, or tobacco. Retailers, in turn, redeem the coupons at face value at banks or through participating wholesalers.

In June 1962, there were about 141,000 participants in the eight areas covered by the Pilot Food Stamp Program. They paid \$1,873,099 for coupons and received free an additional \$1,082,073 worth, meaning that recipients paid about 63 cents for every dollar of coupons they received.

The Government's total contribution to the program for the fiscal year 1962 was \$13.2 million in bonus coupons. Participants paid an additional \$22 million.

An initial evaluation report of these pilot projects showed a significant increase in the value of food consumed by families under the program. More than 80 percent of this increase was in fruits and vegetables and animal products—meat, poultry, fish, milk and eggs—which resulted in a substantial improvement in diets among food stamp families.

The report showed also a dollar volume increase of 8 percent in sales of those retail food stores surveyed.



*More than  
14,000,000 U. S. children  
enjoy lunches under*

# National School Lunch Program



*More than 75 percent of the foods used in the National School Lunch Program are purchased from local suppliers, providing expanding market for farm products.*

By BARBARA TOTTEN

WHEN millions of children sit down to appetizing lunches served through the National School Lunch Program this year, they'll be enjoying the benefits accumulated over more than 100 years of American agricultural progress.

The first known school feeding took place in New York City during 1853. This lunch plan was sponsored by the Children's Aid Society and provided free lunches to children in local industrial schools. Much has happened since that first operation. Today, more than 14 million U.S. school children enjoy lunches under the National School Lunch Program.

This school year will bring greater participation than ever before. Some 65,000 schools are expected to take part in the program during 1962-63, serving around 2.5 billion lunches during the school year.

The School Lunch Program is a billion-dollar business. In 1962, the total program cost was \$1,180,000,000 from all sources. Children's payments for their lunches provided for at least 55 percent of the cost, while other sources (such as USDA donated foods, State and local contributions, and Federal cash assistance) made up the balance.

In the past 16 years, the school lunch program has been extended to all 50 States plus the District of Columbia, Puerto Rico, the Virgin Islands and Guam, and this year it is being extended to American Samoa. Great improvements have been made in management and operation techniques, tying in the program with plentiful foods information issued by the USDA, and now, giving special assistance to distressed areas.

The experimental Special Commodities Assistance Program, popularly called SCAP, was launched last fall to in-





stitute school lunch programs in needy schools not having them. SCAP, an extension of the regular National School Lunch Program, provided free lunches to children unable to pay but charged a small amount to those who could afford them.

It was up to the individual schools to provide equipment and facilities for the program, while the USDA provided food commodities and some funds. Tons of food from the Nation's agricultural abundance have been made available to needy schools in this experimental program.

SCAP was very successful in helping to bring nutritious lunches to more and more of the Nation's children.

The USDA is continually making improvements in the operation of the National School Lunch Program and in purchasing foods for use in school lunches. Under a provision of the National School Lunch Act, the USDA buys and distributes to participating schools foods that are of high nutritive value and suitable for lunches.

Students enjoy chicken, peas, and cherries along with many other nutritive foods. Chicken has been very popular with children of the participating schools, so the USDA has expanded its purchases of this commodity.

These expanded purchases will help fill requirements of the Type A lunch, which is the basic lunch pattern established by the Secretary of Agriculture. It is based on recommendations of the Nation's leading nutritionists. Frequently, the Department also makes available to all eligible nonprofit school lunch programs foods which are obtained under authority of legislation to widen the market outlet for farm products.

But, of course, only a small part of the food commodities for the lunch operation are furnished from Federal sources. Most of the food used in the program is purchased locally by the participating schools, thereby providing an expanding market for U.S. farm products. In fact, more than 75 percent of the foods used in the program are purchased from local suppliers.

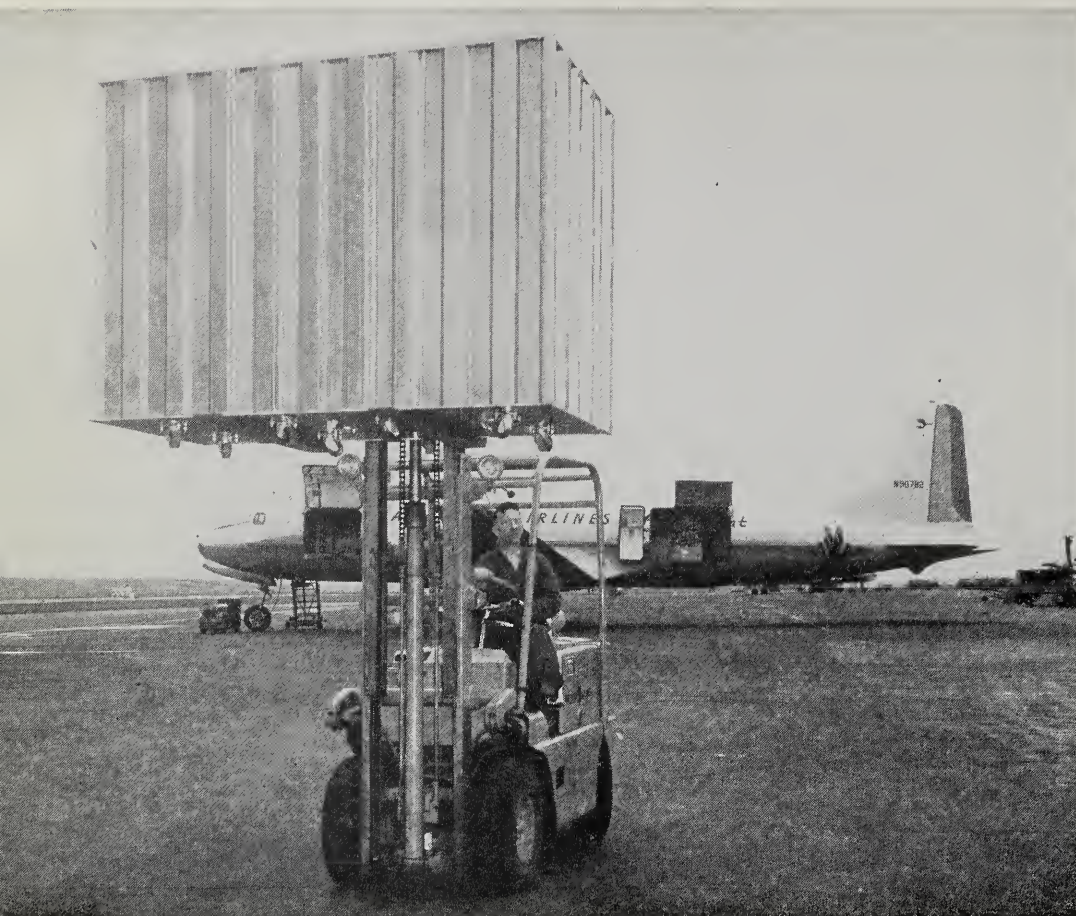
The National School Lunch Program is one of the world's most extensive plans of applied nutrition. The Type A lunch, as compared to the average a la carte lunch meets from a third to a half of the recommended daily dietary allowances, and includes as a minimum, a protein-rich food, generous servings of fruits and vegetables, bread, butter or fortified margarine, and a half-pint of milk. The students a la carte choices usually fall far below their nutritional needs.

The program teaches children to develop sound food habits, eat a wider variety of foods, and practice good table manners. Children should get real pleasure from their noon-hour meals, and the lunch operation helps to make a wholesome, appetizing lunch available to the Nation's children every school day.

Our National School Lunch Program is producing strong, well-fed youth, more income for the farmer, a huge market for food trades, jobs for lunchroom per-

*(continued on page 15)*





# AIR SHIPMENTS OF FARM PRODUCTS

**A**IR SHIPMENT of farm products is getting a lift from the development of turboprop cargo planes and handling methods tailored to meet the needs of the skyborne freighters.

These developments in air cargo may make it possible for the specialty farmer to sell to a wider market, according to USDA's Economic Research Service. They may also give the housewife a wider choice of flowers, exotic fruits, and preseason delicacies.

Reduced costs of air freight have resulted from development of more efficient cargo aircraft, more efficient cargo handling, and changes in Federal regulations that set air freight rates.

Shipment of agricultural cargo by air freight has been increasing rapidly. In 1961, five airlines, two all-cargo lines, and three that carry both passengers and cargo, transported more than 26,000

tons of farm products. This is 63 percent more than in 1959. Much of this increase may be attributed to improved handling methods that reduced the ground time of aircraft by almost half.

Cut flowers topped the list for air shipment with 14,700 tons in 1961. Others were frozen foods, 300 tons; fresh fruits and vegetables, 3,000; poultry products such as chicks and hatching eggs, 1,200; horticultural products such as nursery stock, bulbs, greens and florist stock, 5,600; miscellaneous foodstuffs, 1,000; and other agricultural products such as cloth samples, mushrooms, and dairy and tobacco products, 800 tons.

Today's air freight rates average about 20 cents per ton-mile, about the same as rail express and about 14 cents more than truck freight. Many airline officials believe new turboprop planes can op-

erate economically at 15 cents per ton-mile and possibly for as little as 10.

These reductions may be passed on to shippers as a result of changed Federal regulations. Last year the Civil Aeronautics Board revoked its long-standing order setting minimum rates for domestic air freight. Now air freight carriers will have relative freedom in setting rates, as long as they do not fall below what CAB considers minimum economic levels.

Aircraft designed specifically for cargo are already in production. The tail section of one of these planes swings to one side so cargo can be loaded from the rear. Other models have the aircraft floor at the same height as truck beds to speed up loading and unloading.

Containers designed to overcome some of the long-time problems of air shipment of perishables are already in the experimental stage, but cost figures are not yet available. These new containers can be shipped to transfer points on pallets and then reshipped individually to market points. By tying in with truck service, air freight may now be able to reach points not now served.

In the future the containers may be interchanged between airlines in the same manner as box cars by railroads, a further possible saving to the shipper.

One airline has developed containers with individual refrigeration units that can be set to the exact temperature needed by the cargo. As a result, cargo requiring different temperatures may now be shipped alongside each other in the same aircraft.

A container planned by another airline provides insulation, moisture resistance, and strength enough for shipping fresh produce. Yet it is so light it does not penalize the shipper in extra freight costs. This container is cooled by re-usable gelatine material in one- or three-pound polyethylene bags. The gelatine is frozen at a temperature lower than ice, but not low enough to freeze the produce. The bags eliminate the bother of excess water in the produce.

One company is experimenting with containers of two sizes. The smallest, which holds 400 pounds of cargo, fits into the cargo compartments of passenger jets. The larger unit, big enough to hold a ton of cargo, is designed for transport aboard air freighters.

The consumer may be the final benefactor from lowered air freight costs and improved handling methods. The season for highly perishable products may be extended, and products that are not shipped today because of extreme perishability may be moved to markets.



# Improving Piggyback Transportation of Florida Citrus Fruit

By VERNON A. KEEL

CITRUS FRUIT shippers and carriers who are, or may consider, using the new rail piggyback service for shipping this year's crop can benefit from preliminary tests conducted during the 1960-61 shipping season by USDA's Agricultural Marketing Service.

Researchers from the Transportation and Facilities and the Market Quality Research Divisions of AMS are currently conducting tests to solve some of the problems which occur in using this new shipping service. A report, "Piggyback Transportation of Florida Citrus Fruit," (AMS-482), was recently issued by AMS to alert shippers, carriers, and equipment manufacturers to some of the problems in the rail piggyback service. Research is continuing to develop and appraise some additional improvements in loading patterns and equipment, and the overall economic aspects of the new transportation service.

In this service, trailers for loading are delivered over the highway to the shipper. The loaded trailers are assembled at the rail point and placed on large, specially designed flatcars for transport. Most piggyback trains are moved on fast schedules.

The piggyback service was first offered to Florida shippers in the 1960-61

shipping season as a test operation for moving citrus and citrus products to Baltimore, Philadelphia, and New York. Heavily insulated truck trailers with thermostatically controlled mechanical refrigeration units were used to provide protection during transit for fresh, chilled, and frozen commodities. Since these piggyback trailers are also equipped with ventilation hatches front and rear, citrus shipments may also be made without refrigeration if the outside air temperature is low enough.

The main problem encountered in the preliminary tests was that of getting adequate air circulation through the load while in transit. For example, it was found that when the trailers were transported with front ventilation openings facing forward, there was a much greater and more constant supply of incoming air for ventilation than when the vehicles were moved with the rear ventilation openings facing forward. The reason for this is because the front ventilation openings are located high and at the corners of the trailer, whereas the rear ventilating doors are low and toward the center.

Also, when the screened upper half of the front bulkhead was left open, incoming air in ventilated shipments moved over the top of the load instead of through it. The same was true of air movement in refrigerated loads. This resulted in a low rate of cooling. But when the opening was blocked, air circulation and cooling were considerably increased. However, air movement

through the load was only slightly improved. A modification of the loading pattern, which provided openings in the top layer, permitted the circulating air to reach the connecting channels in the load more easily.

The following recommendations, based on the results of this preliminary research, will enable carriers and shippers to receive greater benefits from piggyback service:

1. Ventilation of citrus shipments with outside air should not be used because it will not provide effective cooling of the fruit unless the temperature of the outside air is between 30 and 40 degrees Fahrenheit. If the shipper cannot be sure that the outside temperature will be in this range during most of the trip, the shipment should travel under refrigeration.

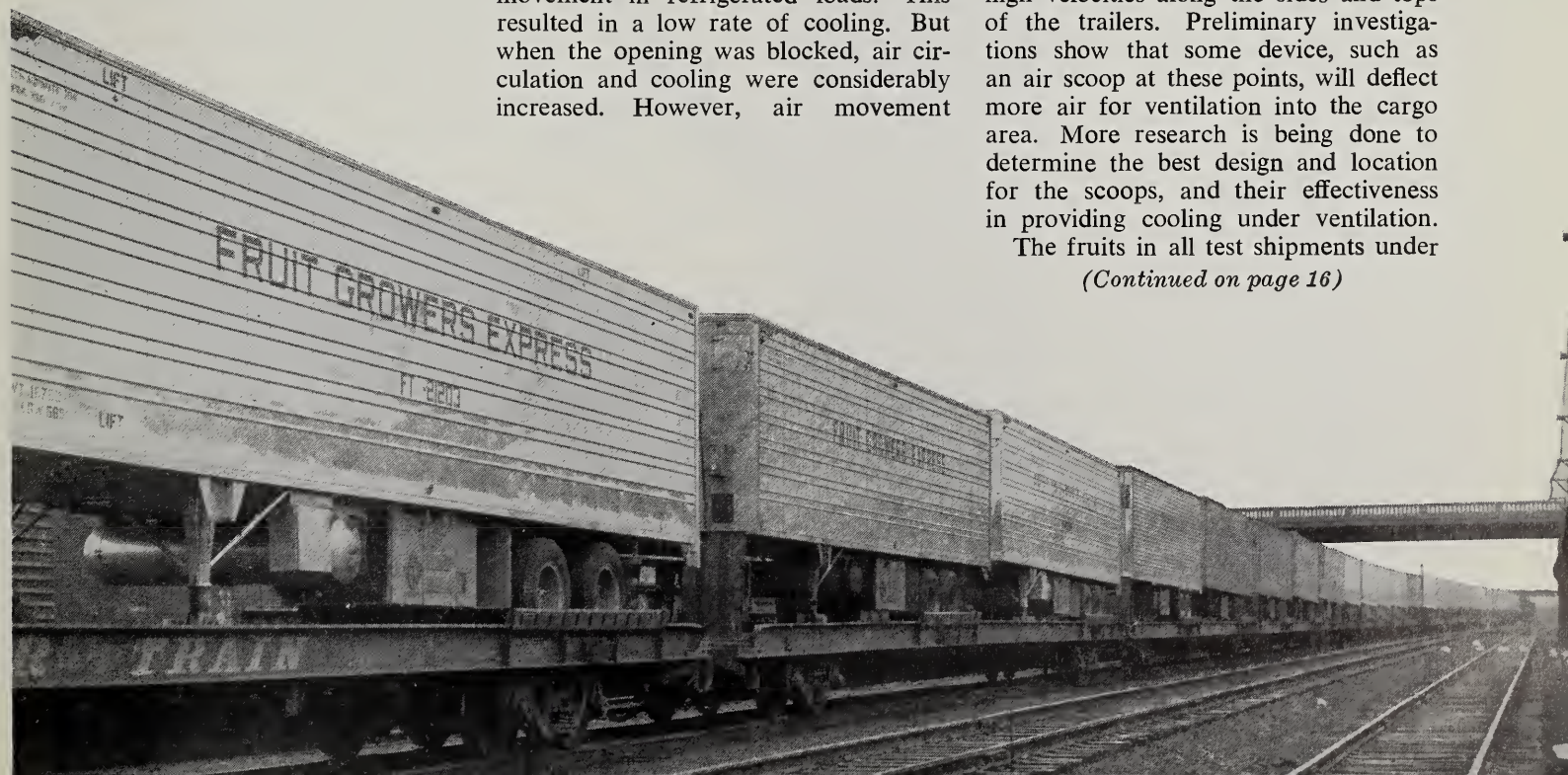
2. The upper half of the bulkhead at the front of the trailer should have no openings except for the duct opening from the evaporator coils of the mechanical refrigeration unit. This arrangement forces air to circulate around and through the load.

3. Loads should have a number of openings in the top layer, which permit the circulating air to reach the channels in the main body of the load.

4. During movement by rail, there is a good supply of air at relatively high velocities along the sides and tops of the trailers. Preliminary investigations show that some device, such as an air scoop at these points, will deflect more air for ventilation into the cargo area. More research is being done to determine the best design and location for the scoops, and their effectiveness in providing cooling under ventilation.

The fruits in all test shipments under

*(Continued on page 16)*





**BETTER and FASTER TAC**





# TAGGING OF COTTON BALES

COTTON warehousemen can save money, labor, and time in tagging cotton bales—and reduce the number of bales that turn up with missing tags—with a special tool designed to fasten tags securely with heavy-duty wire rings.

The tool is a pair of pliers grooved to hold rings, with a magazine attachment that automatically feeds rings into the jaws of the pliers. The pliers can bite into the bagging and cotton, thus firmly attaching the tag to the bale. Tags are usually attached to bales by hand-threading light-weight steel or copper wire through the bagging.

The new tool was designed as a part of the research effort by USDA's Agricultural Marketing Service to improve techniques and equipment used in handling and storing bales of cotton. It was tested at a warehouse in Bakersfield, California.

Using the tool, a worker tagged flat bales of cotton in row blocks in half the time it takes to attach tags by threading light-weight wire through the bagging. Compressed bales, which are usually tagged while on a hand truck either during the weighing operation or just after leaving the scale, took 10 percent less time. Cost of the rings and the tags used with them is 5 to 10 percent less than that of tags with light-weight wire attached.

Light-weight copper or steel wire has been commonly used for tagging bales for the past 50 years or more. Such wire, threaded only through the bagging, is not strong enough to resist the rough bale handling that occurs with mechanical equipment such as industrial lift trucks, clamps, and breakout devices. These machines often brush off, tear, or mutilate warehouse tags. Warehousemen lose time and money in tracing and identifying bales without tags.

Rings used with the new tool are 12½-gauge copper-coated wire. Tags have wire holes ⅜-inch in diameter instead of the usual diameter of ⅜-inch. The heavy-duty rings hold the tags firmly on the bales, and the larger tag opening permits tags to move freely, with less chance that they will be torn off in handling operations.

Another advantage of the new method of tagging is that tags can be uniformly located on bales. When light-weight wire is used, a worker generally looks for a soft or loose spot in the tightly woven bagging, regardless of its location on the bale, so threading can be easily accomplished. Because bagging on flat bales is often tight, another worker may be required to cut slits in the bagging to provide a place for threading the wire.

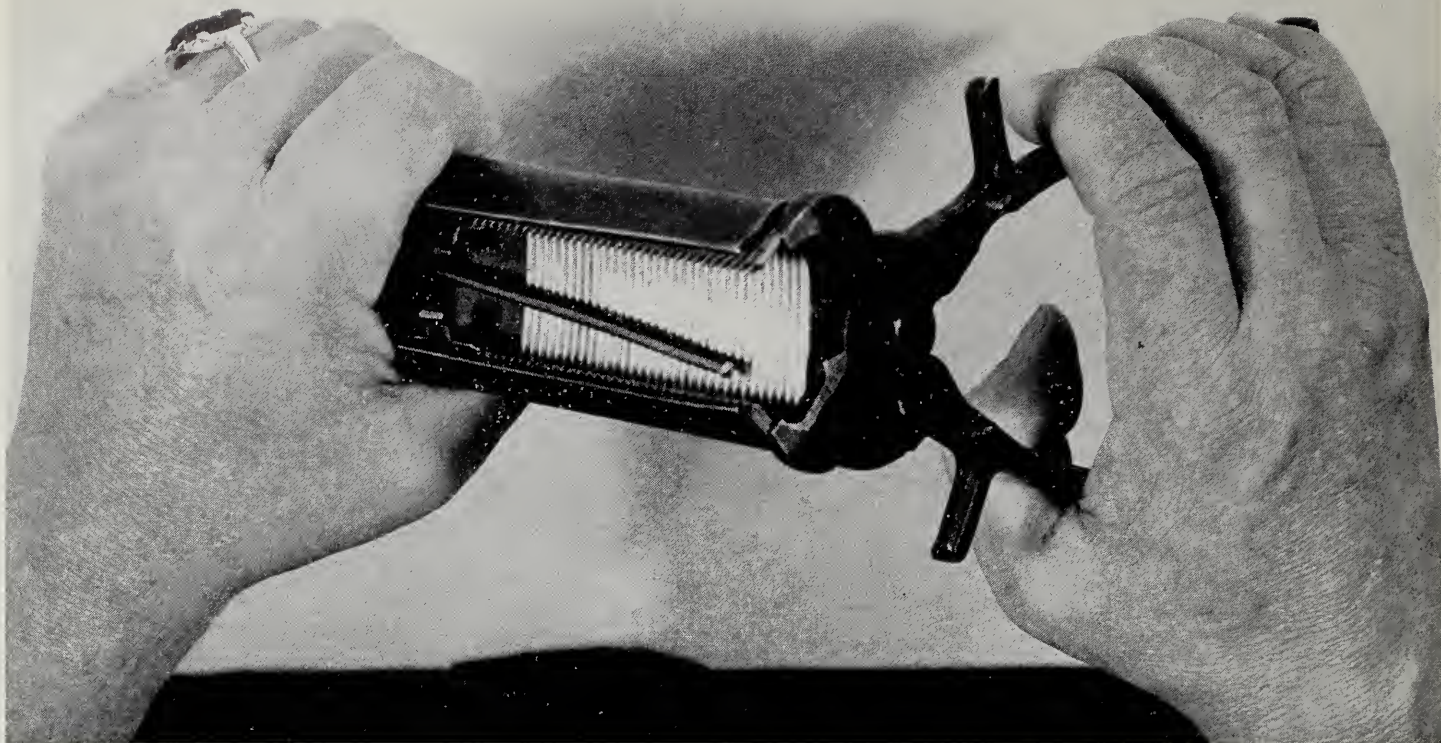
The pliers and magazine part of the bale-tagging tool are each about 8½ inches long. The magazine, which holds a cartridge of 50 rings, is attached below the jaws of the pliers by a swivel arrangement. Like staples in a stapling machine, rings are held in the magazine by a tension spring that also forces them into the jaws of the pliers. When the magazine is placed in position to feed, one ring moves into the open jaws. Twisting the magazine away from the jaws cuts the ring from the cartridge and leaves the pliers free for attaching a tag. The tool is now manufactured commercially.

Tag rings are produced by more than one manufacturer and may be round, oval, oblong, or triangular. All are designed for maximum strength and efficiency in the tagging operation.

Where the tag is placed on a bale is a decision for each warehouseman. As a guide only, it is suggested that tags be







attached underneath the bale lip, where they will receive minimum wear from rough handling, yet remain in full view.

Tagging of flat bales can be quickly done when bales are in row blocks.

The tagger wears a 12-inch wide cloth belt with pockets, carrying a supply of cartridges in one pocket and numbered warehouse tags in another. The smallest tag number is in front. The cartridge of rings and the spring tension holder are inserted in the magazine.

1. Holding the pliers in his right hand, the worker opens them, and, with

his left hand, moves the magazine—ring-side up—into position against the jaws of the pliers.

2. Swivels the magazine away from the plier jaws, leaving an open ring in position in the pliers.

3. Removes 3 to 5 warehouse tags from pocket with left hand.

4. Places the ring of one tag over a tip of the ring in the pliers.

5. Presses jaws of pliers against the bale and closes pliers, thus attaching tag.

6. Opens pliers, moves to next bale,

and swivels magazine back into position to move another ring into the jaws of the pliers.

An efficient method of tagging compressed bales is to have the worker who removes samples also do the tagging. After the bales are weighed, this worker could remove samples and still have time to attach tags.

It does not take long to train a worker to use the bale-tagging pliers. A worker could usually coordinate his actions in handling pliers, rings, and tags after tagging a block of 100 bales.





# *A Packet for the Bride*



SECRETARY of Agriculture Orville L. Freeman is handing something special for the bride to a recent one, Mrs. Robert Russell, of Hyattsville, Md. She is one of the first to receive USDA's new "Packet for the Bride".

This attractive packet, issued as part of USDA's Centennial Program contains a handful of helpful pamphlets for the use of new homemakers. Among them are some which tell of grading and inspection services performed by USDA to help make sure that our food supply is wholesome and of dependable quality. As an introduction to this packet, the Secretary has written:

"Dear Bride: It is a pleasure to send you this packet and to extend my wishes for your happiness. I hope that you will find these publications helpful in your new experience of shopping for two."

Some USDA publications that this "Packet for the Bride" contains are:

"Family Fare—Food Management and Recipes", "Food for Fitness—A Daily Food Guide", "Know Your Butter Grades", "Cheese Buying Guides for Consumers", "Home Care of Purchased Frozen Foods", "U. S. Grades for Beef", "Shopper's Guide to U. S. Grades for

Food", and "How to Buy Eggs by USDA Grades and Weight Classes."

Recent brides and brides-to-be may obtain this serviceable packet free by writing to Office of Information, USDA, Washington 25, D. C.

This packet is also available to marketing firms who may want to purchase quantities. Additional packets are available at \$1 a copy, but for purchases of 100 or more, a discount of 25 percent is allowed. Orders and remittances for these purchases should be sent to the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

# QUALITY EMPHASIS PAYS OFF AT ALABAMA FARMERS MARKET

By FELIX WELCH

COMPLAINTS from consumers and volume buyers about the quality of fresh produce on the Birmingham, Ala., Farmers Market are down more than 75 percent since a quality improvement program began.

This is one of the results Jack Tanner, manager of the million-dollar market, which is owned and operated by the Jefferson County Truck Growers Association, gladly mentions when he explains the quality program to market visitors.

Tanner points out, too, that the volume of produce moving through the market has increased more than 10 percent since the quality improvement program was begun in December 1959.

What is the quality improvement program? What led to its start? What have been the benefits after nearly three years of operation?

Before this project was started, much

of the fruits and vegetables brought on the market by nearby growers was ungraded and varied greatly in condition and size. All kinds of containers were used, and often the produce was hauled loose in the trucks. Decaying produce was common on the market.

False packing—containers with good-quality produce on top and poor quality on the bottom or good quality on top and paper or pine straw on the bottom—was also a common practice.

These conditions and practices obviously limited the sales of the produce mainly to the smaller nearby retailers, public eating establishments, and consumers shopping on the market. Actually, the volume of produce that would bring satisfactory prices was limited, and was steadily declining.

Many nearby fruit and vegetable growers for whom the Birmingham market was their main outlet had become increasingly concerned. They let their plight become known to the Alabama

Department of Agriculture and Industries.

State agricultural officials, too, were concerned. One of their first steps was to talk over the possibilities of a quality improvement program with Jack Tanner, manager of the market. Tanner assured the State officials of his support for such a program, and that of the Jefferson County Truck Growers Association which he heads as president.

With the aid of the Matching Fund Program of USDA's Agricultural Marketing Service, the State agriculture department launched the quality improvement program at the market in December 1959.

Through its matching fund program, AMS helps States adopt practicable and proven agricultural marketing services, or improve marketing services already in use.

One of the first steps taken to pave the way for the quality program at the Birmingham market was a "cleaning-

*Every load of produce that enters Birmingham Farmers Market is checked by a marketing agent of the Alabama Department of Agriculture and Industries for quality. A lighting system on the inspection station, which flashes green for good quality, yellow for fair, red for poor, lets buyers know the quality of a load of produce that has just entered the market. A permanent display of packages being used throughout the Nation in the marketing of quality produce is exhibited to encourage growers to package their produce before offering it for sale.*





up" job. Sanitary conditions, for one thing, were improved to meet the requirements of the Birmingham Health Department. At the same time, producers and sellers operating on the market were advised to eliminate decayed and off-quality produce that they offered for sale on the market.

The next, and big step, was a year-round marketing service program. This called for State agriculture department marketing agents examining produce upon arrival at the market, and demonstrating to the producers better packing methods.

Produce handlers on the market were shown how to improve the appearance of their products by better grading and packaging, and were advised on container use. Acceptable containers and packaging materials are on continuous display at the market in the office of the Alabama Department of Agriculture and Industries.

Marketing agents frequently visit the farms and orchards of growers who sell on the market to show them how to select fruits and vegetables for meeting the market's grade requirements. They also demonstrate at producer meetings proper packing and explain grade requirements. Helpful informational material on handling and selling of quality produce, prepared by the Alabama Extension Service, is distributed at producer meetings over the State and at the market.

During seasonally heavy marketing periods, the State agriculture depart-

ment assigns additional marketing agents to the Birmingham market to help with the quality improvement program. All the agents, with considerable experience in inspecting fruits and vegetables, are licensed by the Agricultural Marketing Service as qualified inspectors.

The marketing agents examine nearly every load of produce arriving at the market. If arriving produce is not properly packed, the marketing agent offers friendly suggestions for improved packing. Any over-ripe or defective produce is barred from the market.

Growers appearing with produce, in which there is considerable poor quality, are advised to "rework" their produce, or remove the poor quality and repack properly. The reworking, however, must be done off the market.

As its part in the quality improvement program, the Jefferson County Truck Growers Association helps form and institute new and higher standards for produce coming to the market. Market rules now prohibit the sale of immature fruit, green watermelons, false-packed containers, decayed produce—to name a few of the changes that have occurred under the quality program. Under a new rule made effective this year, peaches smaller than two inches in diameter are barred from the market.

An ingenious signal system installed by the Alabama Department of Agriculture and Industries at the inspection stand near the entrance to the market lets buyers at the market know the gen-

eral quality of each load of produce entering the market. Flashing lights—green for good quality, yellow for fair, and red for poor—tell the buyers how the marketing agents have classed the entering loads.

Market officials and members of the State agriculture department make a special effort to acquaint large buyers and other buyers outside the Birmingham area with the fact that high-quality products well-packaged can now be obtained in quantity on the Birmingham market. Large-volume buyers are needed to move the increasing supply of produce coming to the market. Since the quality improvement program began, the volume moving through the market has increased at least 10 percent, largely because of the interest developed among out-of-town buyers.

Managers of farmers' markets in other States have been attracted to the market for a first-hand view of how the quality program operates, or have written for detailed information on the program.

Because of the success of the quality project at the Birmingham market, the Alabama Department of Agriculture and Industries, with further help of AMS matching funds, has begun similar projects at the new farmers' markets at Dothan and Fort Payne.

*(The author is a marketing agent of the Alabama Department of Agriculture and Industries. He is in charge of the quality improvement program at the Birmingham Farmers Market.)*

*Growers selling on the market have found that using cardboard containers enables them to sell their tomatoes faster and at better prices. Before the quality improvement program was begun, very few tomatoes sold on the market were as neatly packaged as shown here. Marketing agents of the Alabama Department of Agriculture visit orchards and farms to demonstrate importance of sending only quality produce to market. Felix Welch, at right, shows G.G. Thomas, a grower, inferior peaches that will lower grade of the peaches if left in the basket.*





# THE CHANGING MARKET

## POTATO FARMS

EVERY five years, the U.S. Bureau of the Census undertakes the formidable task of tallying the score in agriculture. In the 17th nationwide census of agriculture conducted in 1959, census enumerators reported that:

—potatoes were produced in all 50 States.

—most of the 3,070 counties in the continental U. S. raise potatoes but production is concentrated in a few counties: 47 counties produced two-thirds of the supply.

—there is a continuing concentration of acreage on fewer but larger potato farms, i. e., farms cultivating 50 acres or more of potatoes.

—farms growing 50 acres or more of potatoes produced 42 percent of the crop in 1949, 53 percent in 1954 and 66 percent in 1959.

—less than 20,000 farms produce 94 percent of the total crop.

—higher yields per acre made it pos-

sible to produce a larger crop in 1959 than in 1949 on 20 percent fewer acres.

Counting the number of potato farms in 1959 was a relatively light task as compared with 1954 because there were 52 percent fewer farms to enumerate. In 1959, there were less than 700,000 farms reporting potato production as compared with 1,400,000 farms in 1954. Part of the decline in the number of potato farms in the successive censuses was due to the change in the definition of a farm. However, the decline in numbers of potato farms has paralleled the long-term decline in number of all types of farms.

In 1959, Idaho, Maine, North Dakota, New York and Minnesota, in that order, had the most farms growing 50 acres or more of potatoes. Idaho reported 1,046 farms, and Maine, 973. Farms with small plots of less than one acre of potatoes were concentrated in Kentucky, North Carolina, Tennessee, and Virginia.

Alaska and Hawaii reported 149 and 79 potato farms, respectively.

Between 1954 and 1959, potato production tended to shift away from States in the South Atlantic and South Central areas, and into States in the Mountain and Pacific areas. In total, the latter two areas accounted for almost 43 percent of the 1959 potato tonnage compared with only 28 percent in 1954.

The top States in potato production in 1959 were Idaho, Maine, North Dakota, Minnesota, and California. In the late 1950's, Idaho overtook Maine in production and now is the top potato State.

Aroostook County, Maine, and Kern County, California, topped all counties in potato tonnage in 1959, producing 30.1 million and 11.4 million hundredweight, respectively. In Idaho, 10 counties were listed with potato production ranging from 2.3 million to 8.5 million hundredweight. In addition to Kern County, 5 other counties in California each produced more than one million hundredweight.

The information on potatoes obtained in the 1959 census, and comparable

data for 1954 and 1949, have been summarized in a new publication just issued by the Department. Copies of this summary, "Potatoes—1959 Crop Census", Statistical Bulletin No. 310, may be obtained from the Marketing Information Division of the Agricultural Marketing Service, USDA.

## COTTONSEED OIL

RESEARCHERS for USDA's Agricultural Marketing Service have made it possible for the vegetable oil industry to predict changes in the condition of stored cottonseed oils.

In a report recently issued, marketing researchers explain the methods and formulas which can enable industry to predict the condition of cottonseed oil at any given point during storage. Not only will this information make it possible to calculate the future value of stored oils, but it will also eliminate the risk taken in storing cottonseed oil.

During the four-year study, it was found that changes in the characteristics which measure quality of stored oils were related to a time-temperature factor. Researchers discovered that no significant changes occurred in the quality characteristics when oils were stored in drums or field tanks if the mean temperature of the oil was below 50° Fahrenheit. Oil stored under similar conditions in Chicago or New York suffered less deterioration in four years than did oil stored 3 years in Los Angeles or New Orleans.

Studies of different types of storage containers also produced some fruitful results. Researchers discovered, for example, that the less area of oil exposed to air, the less deterioration there would be. Therefore, oil stored in large vertical cylindrical tanks, filled to capacity with limited access to air, and stored in cool areas should undergo minimum change in characteristics.

Although storing crude oil proved impractical because of the high rate of increase in color with loss of value, the





- Census Indicates Trend Toward Larger Potato Farms
- Predicting Quality of Stored Cottonseed Oil
- Terminal Markets Handle 46 Percent of Nation's Slaughter Cattle

report includes methods and formulas for determining changes in condition of stored crude oils.

Some cottonseed oils that did not meet specifications for moisture and volatile matter before storage did meet them after storage. Researchers discovered that all refined and crude oils approached a constant moisture content during storage.

Standard shortenings, made from oils stored up to four years, were judged by members of industry as choice in flavor and good in odor, when compared with standard shortening made from fresh oil. These shortenings were further judged to have good flavor and odor after being stored for eight months at room temperature under household conditions.

Similar research is currently being conducted on storage of soybean oils. Results of this four-year study should be available within a year.

For further information about predicting changes in cottonseed oils during storage, write to the Office of Information, USDA, Washington 25, D. C. Ask for MRR-523, "Predicting Quality of Stored Cottonseed Oils."

## TERMINAL MARKETS

**A**LTHOUGH terminal livestock markets have shown a relative decline in volume in the past 40 years, they are still the single most important factor in the livestock marketing pattern, according to Clarence H. Girard, Director of the Packers and Stockyards Division of AMS.

Despite the undeniable fact of the trend toward decentralization, the public central markets are still playing an extremely important role in the marketing of livestock.

Girard stated recently, "Terminal markets have been a force for open, competitive marketing and their function as a pricing mechanism has been invaluable. While they may no longer be the exclusive price-makers they once



*AMS market news reporter discusses cattle prices with two buyers at the stockyards. Recent survey showed that terminals handled 46 percent of Nation's slaughter cattle.*

were, yet they are still unquestionably the price-leaders."

Girard quoted figures, taken from a recent survey of livestock purchases by meat packers, showing that terminal markets still handle 46 percent of the Nation's slaughter cattle. The rest of the slaughter cattle is purchased directly from producers, feeders, country dealers, and from auction markets.

Similarly, terminal stockyards handle 25 percent of the Nation's calves, 30 percent of the swine, and 35 percent of the sheep purchased by packers. In addition, substantial volumes of stocker and feeder livestock are marketed through these central markets.

Terminal stockyards still account for a greater portion of the country's livestock transactions than any other single marketing outlet.

## SCHOOL LUNCH

*(continued from page 5)*

sonnel, employment for related industries, a constructive outlet for abundant commodities, and a healthier, wealthier nation. The rapid development of this program is in itself testimony for the success of this cooperative movement administered by Federal, State, and local authorities.

Today, lunches are available in schools having more than two-thirds of the Nation's enrollment and are usually taken for granted as part of our educational system.

*(The author, who now attends the University of California at Davis, was a student assistant in the Marketing Information Division, AMS, at the time the story was written.)*



## *A Better Breakfast—An Opportunity for the Food Trade*

SEPTEMBER, the Better Breakfast Month, and back-to-school-time, brings many opportunities to promote "foods for thought." For, with the opening of schools across the country, now is the time to feature foods that will help students of all ages to improve their breakfast habits.

Today, a sizeable proportion of our population starts the working day without a good breakfast. Here is a market that could and should be expanded. Research has shown that nothing can replace a balanced breakfast, not even a morning coffee break.

Scientists at the University of Iowa College of Medicine recently conducted a series of tests with office and factory workers ranging in age from 18 to 36 years. They found that when people eat an adequate breakfast, rather than just take a coffee break, they are generally more productive during the late morning hours, are quicker in their reactions, and don't tire as easily. And children are more likely to do well in studies and games when they start the day off with a balanced breakfast.

A wide range of foods offers good breakfast potentials—and sluggish appetites often wake up to imaginative and different breakfast menu suggestions. For instance, teenagers sometimes enjoy hamburgers for breakfast, accompanied by a glass of milk and a piece of fruit, such as a cantaloupe wedge.

Convenience foods can be promoted to encourage the late sleepers to grab a meal before dashing to school or the office. Surveys have shown that people often cut down on breakfast because of late dinners, TV, and other entertainments which lead to tardy rising in the morning. They should be reminded of foods like frozen concentrated orange juice, which can be fixed the previous night, or in seconds before breakfast. This favorite American waker-upper, and a September plentiful, too, is an excellent source of Vitamin C, and a



Growth Through Agricultural Progress

good way to begin the day.

For breakfast, there are other tasty plentifuls, too—fresh pears and grapes for the fruit bowls, and plenty of milk by the glassful or pitcherful. Ready-to-eat dry cereals, as well as cooked cereals, pancakes and waffle mixes, sweet rolls and breads for toast are but a few of the wheat items to highlight breakfast menus.

Better Breakfast Month is an ideal time for everyone to join with the U. S. Department of Agriculture and its Plentiful Foods Program, to help call consumers' attention to all the wholesome and plentiful foods now available.

### PIGGYBACK

*(Continued from page 7)*

refrigeration or ventilation service arrived at destination in good condition, with little or no decay or rind breakdown. Further research into all aspects of this new transportation method should provide shippers and carriers with more detailed information and recommendations for improving this new shipping service.

AMS-482, "Piggyback Transportation of Florida Citrus Fruit," offers more

detailed information about findings during the preliminary tests. Copies may be obtained by writing to Marketing Information Division, AMS, USDA.

*(The author, who now attends the University of North Dakota, was a student assistant in the Marketing Information Division, AMS, at the time the story was written.)*

### PLENTIFULS

Inseparable as frost and autumn leaves—turkeys and cranberries, two perennial favorites—team up with frozen orange juice to lead November's plentiful foods.

Here's how the list stacks up for huskier cold weather appetites:

**TURKEYS:** Supplies the balance of the year will dip about 10 percent from last year's record level. Cold storage holdings, though, are well above the recent five-year average. **CRANBERRIES:** A record crop, some 13 percent greater than the previous one, is nearly a third above average. **FROZEN ORANGE JUICE:** Florida's pack broke all records, and recent stocks were 26 million gallons larger than a year ago.

**APPLES:** Production, estimated at 120 million bushels, runs 9 percent above average but 5 percent below 1961 output. **GRAPES:** Late estimates of California's table varieties total 600 thousand tons—about a fourth greater than last year. **PEARS:** November shoppers will still find Bartletts on the market, along with excellent supplies of the Bosc and Anjou winter varieties.

**BROILER-FRYERS:** November marketings are expected to run about a tenth ahead of last year. **POTATOES:** The fall crop, 6 percent below a year earlier, is still some 22 percent larger than the recent 10-year average. **COOKING OILS** and **SHORTENINGS:** Heavy supplies are expected. **DRY BEANS AND PEAS:** These will be plentiful in certain areas of the country.